Software Requirements
For
Station Status Display

Version 1.0

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Approvals: _____
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1.0 Introduction

This document provides device and user interface requirements for the Station Status Display process.

2.0 Required Functionality

The Station Status Display process will run on a Master and gather selected station level status of an automated tracking station from the Master. It will report that status to local and/or remote customers. An interface, running on a PC that is running Windows NT 4.0, will display the status.

3.0 Parameter Ranges

The Station Status Display will accept no commands, thus utilizing no parameters.

4.0 Communications Protocol

Communication between the process and Master will utilize named pipes. The process will send the status over the network via UDP protocol to IP addresses for display.

5.0 GUI Functionality

The GUI is a status display only, accepting no user input. All status items will be in one window, allowing all status to be checked at a glance.

6.0 Command Scripting

There will be no user-initiated commands.

7.0 High-level Status

The Station Status Display process will display status of devices attached to nodes of the system. All status that the SSD displays will be obtained from the Monitor and Control process. The SSD process will display:

Az/El of the antenna

In degrees, the Az and El of the receiving antenna will be obtained from the 11 m antenna computer via the 11 m Interface process. This process transmits status to the Monitor and Control process.

Angle processor mode

The angle processor mode will indicate which of the program or autotrack modes the antenna is currently using. As in the above, the M/C process obtains the status from the 11 m interface.

Receive AGC (S and X-band)

Receiver AGC in Hz is obtained from the 11 m Interface process for the S and X-Band receivers.

PSK Demod and Bit Sync lock

Lock/No Lock status will be obtained from the 11 m Interface process in the case of the X-Band Status, and from the M/C process for the S-Band.

Transmitter mode

The transmitter mode antenna/dummy load) will be displayed. Currently, there is no dummy load available for the transmitter.

Exciter mode

The exciter mode will display whether or not modulation is being applied.

Exciter/Receiver Coherency

The transponder lock status (Lock/No Lock) from the frame synchronizer will be displayed to show exciter/receiver coherency.

S-band recorder mode

The S-band recorder mode (e.g. play, record, idle, or off) is obtained by the M/C process and displayed.

S-band frame sync lock

Lock/No Lock status of the S-band frame synchronizers will be obtained from the M/C process and displayed.

S-band frame sync cumulative errors this support

The cumulative errors from the S-band frame synchronizers is obtained from the M/C process and displayed.

PTP status

The M/C process will obtain the numbers of VCDU's processed and the number of commands received from the MOC.

Current tracking activity and the next two scheduled

The schedule information will be obtained by the M/C process and displayed. All schedule information available at a Master will be displayed. This includes ID, orbit number, operation, band, receive antenna, transmit antenna, AOS, and stop time.

8.0 Replacement Algorithm

N/A